

REMARKS

Reconsideration and allowance of this application, as amended, are respectfully requested.

The ABSTRACT OF THE DISCLOSURE IS REVISED. A substitute ABSTRACT is provided at the end of this response.

The TITLE of the application is also revised as suggested by the Examiner.

The claims have been amended in view of the 'objections' noted by the Examiner. It is believed that the claims, as amended, patentably define over all art of record. Thus, the claim rejections are respectfully traversed.

Claim 1 recites a liquid crystal panel arrangement wherein the liquid crystal layer is held between the first and second electrode substrates. In the first electrode substrate, the pixel electrode is disposed at a pixel area and applies an electric field to the liquid crystal layer. The alignment of liquid crystal molecules is controlled according to the electric field to optically modulate transmission light and reflection light within the pixel area. The transmission light is applied to the liquid crystal layer from the rear side of the first electrode substrate. The reflection light is applied to the liquid crystal layer by the reflecting member which reflects incident light applied from the second electrode side through the liquid crystal layer.

The claimed inventions provide arrangements and techniques that prevent decrease of light use efficiency due to a light-shielding wiring pattern having memory wiring layers. One or more apertures of the light-shielding pattern allow transmission of light from the rear side of the first electrode substrate. Since the reflection member overlaps the light-shielding wiring pattern such that the one or more apertures are left unmasked in the pixel area, a decrease in the light use efficiency can be prevented by determining the layout of the light-

shielding wiring pattern so as not to adversely affect the effective transmission area for the transmission light.

Spitzer (U.S. Patent No. 5,654,811) discloses a basic structure of a liquid crystal display in which a liquid crystal layer is held between first and second electrode substrates. Fig. 39D shows an opaque element 1234 serving as a light-shield for preventing incident light to a pixel transistor 1218 in an electroluminescent display. Further, an aluminum element is used as the light-shield to reflect light. However, no reflection light is associated with transmission light to display a pixel of an image.

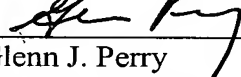
Murade (U.S. Patent No. 6,433,767) uses a light blocking film of refractory metal which protects a thin film transistor from being exposed to light. This light blocking film is essentially the same as the light shield of Spitzer. Further, no reflection light is associated with transmission light to display a pixel of an image.

Thus, neither of the references (nor a combination of their teachings) suggest the combinations of features set forth in our claims in which the reflection member that overlaps the light-shielding wiring pattern such that the one or more apertures are left unmasked in the pixel area.

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Amdt. dated October 8, 2003
Reply to Office Action of July 8, 2003

All outstanding matters having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

Respectfully submitted,

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ABSTRACT OF THE DISCLOSURE

A liquid crystal display panel is arranged such that a reflection member overlaps a light-shielding wiring pattern such that apertures are left unmasked. This prevents light use efficiency from being decreased due to a light-shielding wiring pattern having memory wiring layers. An array substrate includes a transparent electrode which applies a field to a liquid crystal layer, a light-shielding wiring pattern having one or more apertures which allow transmission of light incident on the liquid crystal layer from the reverse side of the array substrate, and a reflection member which reflects incident light applied from a counter substrate side through the liquid crystal layer.